In the Claims

1 (previously presented). A method for the production of retinal cells, comprising:

(i) obtaining one or more mammalian adult Müller cells; and

(ii) culturing the cells in the presence of an extracellular matrix protein and a growth factor to thereby induce dedifferentiation of the Müller cells into a progenitor phenotype.

2 (previously presented). The method according to claim 1, wherein the extracellular matrix protein is fibronectin and the growth factor is EGF.

3 (previously presented). The method according to claim 1, wherein the Müller cells are human Müller cells.

4 (previously presented). The method according to claim 1, further comprising culturing the dedifferentiated cells in the presence of an extracellular matrix protein and a differentiation agent, to thereby induce the dedifferentiated cells to adopt a specific differentiated cell phenotype.

5 (previously presented). The method according to claim 4, wherein the extracellular matrix is selected from the group consisting of matrigel, fibronectin, collagen, and laminin, and the differentiation agent is selected from the group consisting of FGF-2 retinoic acid, 3,3',5-Triiodo-L-Thyronine, insulin, insulin-like growth factor, and TGFβ.

6 (previously presented). A composition comprising de-differentiated Müller cells obtainable by a method comprising:

(i) obtaining one or more mammalian adult Müller cells; and

(ii) culturing the cells in the presence of an extracellular matrix protein and a growth factor to thereby induce dedifferentiation of the Müller cells into a progenitor phenotype.

7 (previously presented). The composition according to claim 6, wherein the de-differentiated Müller cells are human cells.

8 (previously presented). A method for treatment of a condition associated with cell loss or cell damage, comprising administering an effective amount of retinal cells to a mammal suffering from the condition, wherein the retinal cells are:

(i) mammalian adult Müller cells that have been induced to de-differentiate into a progenitor phenotype prior to said administering; or

(ii) the de-differentiated cells of (i), wherein the cells have been induced to differentiate to adopt a specific differentiated cell phenotype prior to said administering.

9 (previously presented). The method according to claim 8, wherein the retinal cells are human cells.

10 (previously presented). The method according to claim 8, wherein the retinal cells are pluripotent Müller stem cells.

11 (previously presented). The method according to claim 8, wherein the condition is associated with cell loss or damage in the mammal's eye.

12 (previously presented). The method according to claim 8, wherein the condition to be treated is selected from the group consisting of: age-related macular degeneration, proliferative diabetic retinopathy, proliferative vitreoretinopathy, retinal detachment, retinitis pigmentosa, glaucoma and optic nerve injury, and retinal degeneration.

13 (previously presented). The method according to claim 8, wherein the retinal cells are autologous cells, derived from the mammal to be treated, heterologous cells stored in a cell bank, or genetically modified cells derived from the mammal or cell bank.

14 – 15 (cancelled).